Aquaculture

VOL. 238 NOS. 1–4 CONTENTS 1 SEPTEMBER 2004

(Abstracts/contents list published in: Aquatic Science and Fisheries Abstracts, Biological Abstracts, Elsevier BIOBASE/Current Awareness in Biological Sciences, Current Contents A, B & ES, Environment Abstracts, Freshwater and Aquaculture Contents Tables, Geo Abstracts, Geobase, Marine Science Contents Tables, Zoological Record)

Review article

DNA marker technologies and their applications in aquaculture genetics
Z.J. Liu (Auburn, AL, USA) and J.F. Cordes (Gloucester Point, VA, USA) 1

Diseases

18-kDa protein as a marker to detect WSSV infection in shrimps
S. Sathish, C. Selvakkumar (Chennai, India), A.S. Sahul Hameed (Tamil Nadu, India) and R.B. Narayanan (Chennai, India) 39

Attempt to validate breakpoint MIC values estimated from pharmacokinetic data obtained during oxolinic acid therapy of winter ulcer disease in Atlantic salmon (*Salmo salar*)
R. Coyne, Ø. Bergh, O. Samuelsen, K. Andersen, B.T. Lunestad, H. Nilsen (Bergen, Norway), I. Dalsgaard (Frederiksberg, Denmark) and P. Smith (Galway, Ireland). 51

(continued on p. 545)

CONTENTS direct

This journal is part of **ContentsDirect**, the *free* alerting service which sends tables of contents by e-mail for Elsevier books and journals. You can register for **ContentsDirect** online at: **http://contentsdirect.elsevier.com**

Visit the Elsevier Aquaculture Website today!

New FREE Online Features:

- **Table of Contents NOW WITH ABSTRACTS**
- **Full Search on Abstracts, Authors and Keywords**
- **Author and Subject Index**

Bookmark: http://www.elsevier.com/locate/aqua-online
or http://www.elsevier.com/locate/aqua-online

0044-8486(20040901)238:1-4;1-N

Available online at www.sciencedirect.com
SCIENCE DIRECT®

Vol. 239
Contents

2004

Available online at www.sciencedirect.com
SCIENCE DIRECT®
Aquaculture
ELSEVIER
Aquaculture 239 (2004) 533–535
www.elsevier.com/locate/aqua-online

Contents of *Aquaculture*, Volume 239

VOL. 239 NOS. 1–4 **30 September 2004**

Diseases

A comparison of oxolinic acid concentrations in farmed and laboratory held rainbow trout (*Oncorhynchus mykiss*) following oral therapy
R. Coyne, O. Samuelsen, H. Kongshaug, K. Andersen (Bergen, Norway), I. Dalsgaard (Frederiksberg, Denmark), P. Smith (Galway, Ireland) and Ø. Bergh (Bergen, Norway) 1

Elimination of shrimp endogenous alkaline phosphatase background and development of enzyme immunoassays for the detection of white spot syndrome virus (WSSV)
W. Zhan, X. Wang, J. Chen, J. Xing (Qingdao, China) and H. Fukuda (Tokyo, Japan). 15

On the validity of setting breakpoint minimum inhibition concentrations at one quarter of the plasma concentration achieved following oral administration of oxytetracycline
R. Coyne, O. Samuelsen, Ø. Bergh, K. Andersen (Bergen, Norway), L. Pursell (Galway, Ireland) I. Dalsgaard (Frederiksberg, Denmark) and P. Smith (Galway, Ireland). 23

Effects of feeding regime on susceptibility of Atlantic salmon (*Salmo salar*) to cold water vibriosis
B. Damsgård, U. Sørum (Tromsø, Norway), I. Ugelstad (Tromsø, Oslo, Norway), R.A. Eliassen (Bodø, Norway) and A. Mortensen (Trømso, Norway). 37

Toxicity and therapeutic effects of chloramine-T for treating *Flavobacterium columnare* infection of goldfish
I. Altinok (Trabzon, Turkey). 47

Seasonal changes of *Perkinsus* and *Cercaria* infections in the Manila clam *Ruditapes philippinarum* from Jeju, Korea
T.T.T. Ngo and K.-S. Choi (South Korea). 57

Genetics

cDNA cloning and mRNA expression of the lipopolysaccharide- and beta-1,3-glucan-binding protein gene from scallop *Chlamys farreri*
J. Su (Qingdao, PR China; Beijing, PR China; Yangling, PR China), L. Song (Qingdao, PR China), W. Xu, L. Wu (Qingdao, PR China; Beijing, PR China) H. Li and J. Xiang (Qingdao, PR China). . 69

Husbandry and Management

Seven year remediation study at the Carrie Bay Atlantic salmon (*Salmo* salar) farm in the Broughton Archipelago, British Columbia, Canada
K.M. Brooks, A.R. Stierns (Port Townsend, WA, USA) and C. Backman (Campbell River, BC, Canada) 81

Optimizing fertilizer dose for rearing stage production of carps under polyculture
J.N. Bhakta, D. Sarkar, S. Jana and B.B Jana (West Bengal, India) 125

Recovery of Siberian sturgeon yearlings after an acute exposure to environmental nitrite: changes in the plasmatic ionic balance, Na+–K+ ATPase activity, and gill histology
E. Gisbert (Sant Carles de la Ràpita, Spain), A. Rodríguez, L. Cardona (Barcelona, Spain), M. Huertas (Sant Carles de la Ràpita, Spain), M.A. Gallardo (Barcelona, Spain) C. Sarasquete (Cádiz, Spain), M. Sala-Rabanal, A. Ibarz, J. Sánchez, F. Castelló-Orvay (Barcelona, Spain) 141
Umbilical scarring in hatchling American alligators
J.J. Wiebe, M.S. Sepúlveda, J.E. Buckland (Gainesville, FL, USA), S.R. Anderson (Starke, FL, USA) and T.S. Gross (Gainesville, FL, USA) 155
Mariculture of *Kappaphycus alvarezii* (Rhodophyta, Solieriaceae) color strains in tropical waters of Yucatán, México
J. Muñoz, Y. Freile-Pelegrín and D. Robledo (Yucatán, Mexico) 161
Effect of fish size and hydraulic regime on particulate organic matter dynamics in a recirculating aquaculture system: elemental carbon and nitrogen approach
M.A. Franco-Nava (Palavas-les-flots, Rennes, France), J.P. Blancheton (Palavas-les-flots, France), G. Deviller, A. Charrier, (Palavas-les-flots, France) and J.Y. Le-Gall (Rennes, France) 179
Composition and abundance of invertebrate benthic fauna in *Farfantepenaeus paulensis* culture pens (Patos Lagoon estuary, Southern Brazil)
R. Soares, S. Peixoto, C. Bemvenuti, W. Wasielesky, F. D'Incao, N. Murcia and S. Suita (Rio Grande (RS), Brazil) 199
Soil solution sulfide control by two iron-oxide minerals in a submerged microcosm
G. Ritvo (College Station, TX, USA), V. Shitumbanuma (Lusaka, Zambia) and J.B. Dixon (College Station, TX, USA) 217
Steps ahead for aquaculture development in Sub-Saharan Africa—the case of Nigeria
M.A. Anetekhai, G.A. Akin-Oriola, O.J. Aderinola and S.L. Akintola (Logos, Nigeria) 237
Effects of different antifungal treatments on artificial incubation of the astacid crayfish (*Pacifastacus leniusculus* Dana) eggs
J.D. Celada, J.M. Carral, M. Sáez-Royuela, P.M. Melendre and A. Aguilera (León, Spain) 249
Separated breeding of perch fingerlings (*Perca fluviatilis* L.) with and without initial inflated swim bladder: comparison of swim bladder development, skeleton conformation and growth performances
F. Jacquemond (Poisy, France) 261
Distribution of bacteria involved in nitrogen and sulphur cycles in shrimp culture systems of West Bengal, India
T.J. Abraham, S. Ghosh, T.S. Nagesh and D. Sasmal (West Bengal, India) 275

Nutrition

A comparative ecophysiological study of two infaunal filter-feeding bivalves: *Paphia rhomboïdes* and *Glycymeris glycymeris*
M. Savina (Plouzané, France) and S. Pouvreau (Argenton, France) 289
Testing feeds and feed ingredients for juvenile pink shrimp *Farfantepenaeus paulensis*: in vitro determination of protein digestibility and proteinase inhibition
D. Lemos (São Paulo, Brazil), A. Navarrete del Toro, J.H. Córdova-Murueta and F. Garcia-Carreño (La Paz, Mexico) 307
Limitations on the use of shrimp *Litopenaeus vannamei* midgut gland extract for the measurement of in vitro protein digestibility
S. Divakaran, I.P. Forster and M. Velasco (Waimanalo, HI, USA) 323
Feed intake, growth, and protein utilisation by post-smolt Atlantic salmon (*Salmo salar*) in response to graded levels of fish protein hydrolysate in the diet
S. Refstie (Sunndalsøra, Norway), J.J. Olli (Karasjok, Norway) and H. Standal (Fredrikstad, Norway) 331
Nutritional and bacterial profiles of juvenile *Artemia* fed different enrichments and during starvation
A.J. Ritar (Taroona, Australia), G.A. Dunstan, M.M. Nelson, M.R. Brown, P.D. Nichols (Hobart, Australia), C.W. Thomas, E.G. Smith, B.J. Crear (Taroona, Australia) and S. Kolkovski (Western Australia, Australia) 351